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The composition shows a vast expanse of moorland, occasionally intersected by streams flowing from the extensive mountain ridge known as the Cheviot Hills, which traverse almost the whole breadth of South Scotland. The entire district, especially towards the south, presents to the eye a large number of green hills, differing in form, and enclosing numerous deep, narrow, and sequestered valleys. Such is the "countrie" Mr. Oakes's pencil has presented to us with such fidelity and picturesque beauty: the dark, heavy clouds resting on the heads of the Cheviots, and in some parts concealing them, portend a heavy storm. The third engraving is from a picture, 'THE FALLOW FIELD,' contributed to the Academy in 1875; it had for an introductory motto—

"The building rook 'ill caw from the windy tall elm-tree,
And the tufted plover pipe along the fallow lea."

The comments we made upon it when in the gallery may well serve our purpose in referring to it again. After speaking of a work, clever, but dull and sad as a subject, it was said, "Let us get into the open, and breathe a less tainted atmosphere. Here we are, happily, in 'The Fallow Field' of J. W. Oakes, one of the best landscapes he ever painted, and one of the best,

too, in the present exhibition. The fallow field runs down to a piece of water in the middle distance, which is dominated in the distance by low, pleasant hills." There is no clue to the locality of the scene, but it bears a strong resemblance to some of those Welsh or north-country landscapes where the painter found so many subjects. "The freshness of the spring-time was never better expressed on canvas, and the lines the artist illustrates give, in their turn, a gloss to the picture which saves a world of trouble in the way of description. The pretty couplet, notwithstanding its halting manner, runs thus:—'The building rook,' &c. Mr. Oakes is all brightness and crispness."

The number of pictures painted by this artist for the British Institution, and annually, with one exception, for the Academy, from 1848 to the present time, is very considerable, and includes scenery both inland and on the coast; he did not, however, leave Liverpool to take up his residence in London till 1856 or 1857. In 1876 Mr. Oakes was elected an Associate of the Royal Academy, an honour to which his numerous, well-studied, and faithful landscapes fairly entitled him: I have a list of nearly fifty of the principal of them lying before me as I write, and this is but a small proportion of the whole.

JAMES DAFFORNE.

THE MANUFACTURE OF BRONZES AND PORCELAIN IN JAPAN.



AMONG the bronze and porcelain manufactures of Japan, probably those of the famous old city of Kiôtô are held in the highest estimation in foreign countries, and a brief description, therefore, of the *modus operandi* adopted in their manufacture can hardly fail to interest admirers of the beautiful articles in question, which were so well represented at the Paris Exhibition of last year.

The bronze-ware is made with the rudest possible appliances. From the elegant and richly chased articles which are turned out, the reader might well expect to be informed that large manufactories, provided with every modern appliance, were to be found in Kiôtô, but, in reporting on the industries of his district, the British consul for Hiogo and Osaka tells us that this is by no means the case, for in reality the workshops are no better than ordinary blacksmiths' shops. Without going too minutely into details, the process of manufacture is nearly as follows: The moulds, which of course vary according to the shape of the vase or bowl to be produced, are made of wood, sometimes covered with straw; on this a coating of clay is placed, and over this comes a layer of wax, which is moulded into the required design. Another thick coating of clay is added, and the inner wooden mould being taken out, the orifice at each end is now closed. Two holes are then made at one end, connecting with the above-mentioned layer of wax, so as to enable the wax, when melted, to run out, and through these the molten bronze enters, filling the interstices occupied by the wax. The subsequent process of casting is of the rudest kind. The earthen mould is placed in a small clay oven hollowed out in the floor of the workshop, its size depending upon that of the casting. The oven is filled with charcoal and closed, with the exception of a circular opening at the top, on which a chimney, a foot or so high, is built of wet clay. This primitive oven is connected underground with a pair of wooden bellows, protected from the sparks and heat from the furnace by a small earthen or stone wall, about twelve inches in height, and worked by hands and feet. The first operation is to melt the wax, which runs out, leaving the impression of the design stamped firmly in the surrounding layer of clay: this done, the mould is taken out and allowed to cool. It is then put into the furnace a second time, and the molten bronze is now poured into it through the holes by which the wax

escaped. After the bronze has filled the mould, the chimney is removed, the oven is supplied with fresh charcoal laid evenly round the mould, and a perforated lid being put on the circular opening where the chimney stood in the earlier stage, the bellows are set to work again for an hour or more, according to the size of the casting. The operations described generally occupy a day. When the casting is taken out of the oven the earth inside and outside is scraped off, and reveals the vase or bowl in a rough state. It is next put into the hands of rough workmen—boys being usually employed in this part of the work—by whom it is polished and scraped with a knife until it presents a smooth surface. After this it passes on to the carver, who fills in the details of the design. When his work is done the vase or bowl is dipped into a boiling solution of vinegar, sedge, and sulphate of copper, in order to give it the proper colour. A few finishing touches in the way of polish are added, and the article is completed and ready for sale.

The porcelain made at Kiôtô is principally of two kinds—that known as "awata," and the kind called "kiyomidzu." The process of manufacture in each case does not differ very materially. In the awata pottery, however, the groundwork of each piece is pure clay of two kinds, both of which are obtained in the neighbourhood; whereas in the kiyomidzu porcelain the groundwork is composed of amakusa-stone powdered fine and mixed with fire-clay, in the proportion of six parts of stone to four of clay. In each case, the shape of the article having been determined by the potter's wheel, it is put into a small circular oven and baked. After this comes the glazing process. The awata pottery is dipped into a solution composed of seven parts of extract of isu and three parts of extract of amakusa-stone pounded fine into a white paste; while the kiyomidzu-ware is dipped into a solution in which the ingredients, though the same, are mixed in equal proportions. The ware is then placed in a high oven containing several tubular-shaped cells, in which the pottery is arranged in rows, each article being laid in a separate tray provided with a lid. This oven is heated by a large fire underneath, and, in addition, each cell is furnished with two or three holes, through which lighted wood or charcoal is inserted, so as to regulate the heat in each cell, as may be found desirable. After being baked a second time, the ware is painted, and is then placed in the last oven. The concluding operation is the polishing, for which the stone used is generally agate.